

HOYA NEW

Bogor Botanical Garden, Indonesia



Broad tree lined avenues 1981, Picture by Dale Kloppenburg
Bogor Botanical Garden, Indonesia

What you may find when your out hunting for hoyas, yes and we found
hoyas.

A pdf publication devoted to the Genus
Hoya ISSN 2329-7336

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Editor:
Dale Kloppenburg

Contents

When a species is collected from the wild, I feel it is wise to identify it, propagate it and name it. In this way it will eventually get it into commercial channels, be distributed to all those interested in this genus and thus be preserved. If in the future the species is lost through natural causes or forest destruction it will still be here on earth in your collection.

The following new species are presented in PDF format with ISSN number.

1. **Hoya histora** Kloppenburg
2. **Hoya palawanensis subsp. minora** Kloppenburg
3. **Hoya velasioii subsp. grandiora** Kloppenburg
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11. **Hoya sulitii** Kloppenburg

NOTE: please see the Website publication of these species at “www.rare-hoyas.com”. Go to end and click on “publication” to access new species publications.

Hoya histora Kloppenburg

ISSN 2329-7336

Hoya histora Kloppenburg sp. nova, holotypus 5292 (CAHUP) hic designatus non similes ullius Philippina hoyas sp. folio pinnatinervis, coronae lobus apex – apex 0.25 cm longus, corolla diametro complanatus 0.90 cm et pollinarium translatoribus typus ls/o, differo (id est) ceterus.

This species has an unusual combination of characters that distinguishes it from other Philippine hoyas species in that the foliage is pinnately nerved, lobes of the corona from apex – apex are 0.25 cm long, the corolla diameter flattened is 0.90 cm and the pollinarium translators are ls/o type (in addition the pollinaria is 0.40 mm long). Named for the Natural History Museum at Univ. Philippines at Los Banos.



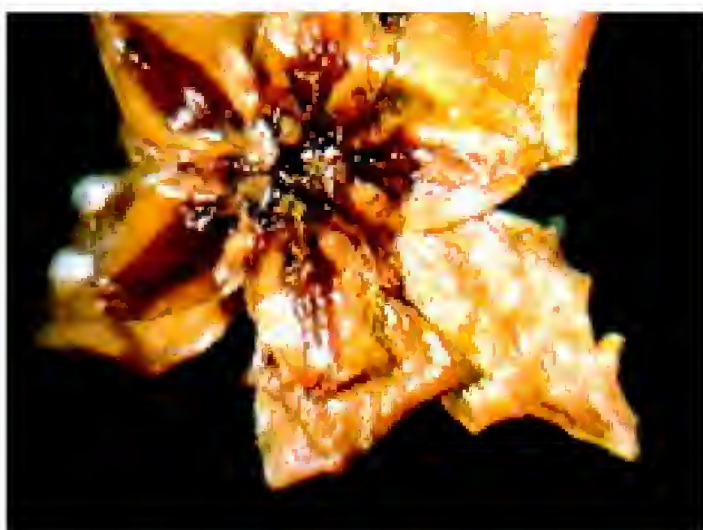
Pedicel: enlarged about 16x. Surface is slightly pubescent (a few short stiff hair cells). 1.5 cm long, terete, 0.04 cm in diameter.

There was no calyx on the selected flower from the herbarium sheet.



Outside surface of the corolla enlarged about 16x, glabrous but granulate.

Sinus – sinus	0.17 cm
Sinus – center	0.15 cm
Sinus – apex	0.32 cm
Apex – center	0.45 cm
Widest	0.25 cm

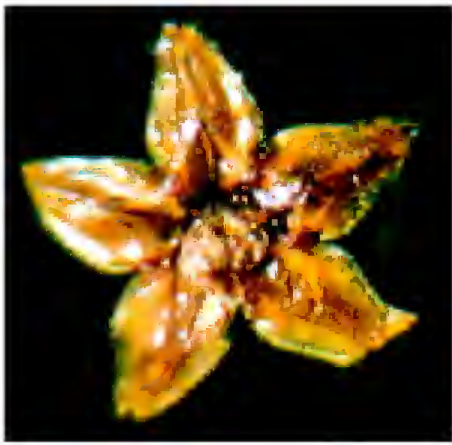


Inside view of the flower, the corolla surface appears to be glabrous but granulate. Corona lobes are horizontal with center raised slightly, inner lobes are short spatulate and nearly touch in the center, retinacula and anther wings were covered, dorsal a little concave with a linear low keel and a boss near the inner lobe base. Outer lobes are narrowly rounded and exceed the corolla sinuses.

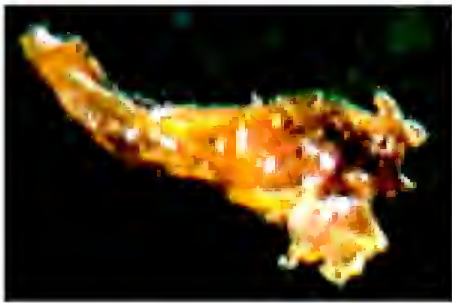


Top view of the corona enlarged about 16x. See keel and boss on dorsal surface of the coronal lobe.

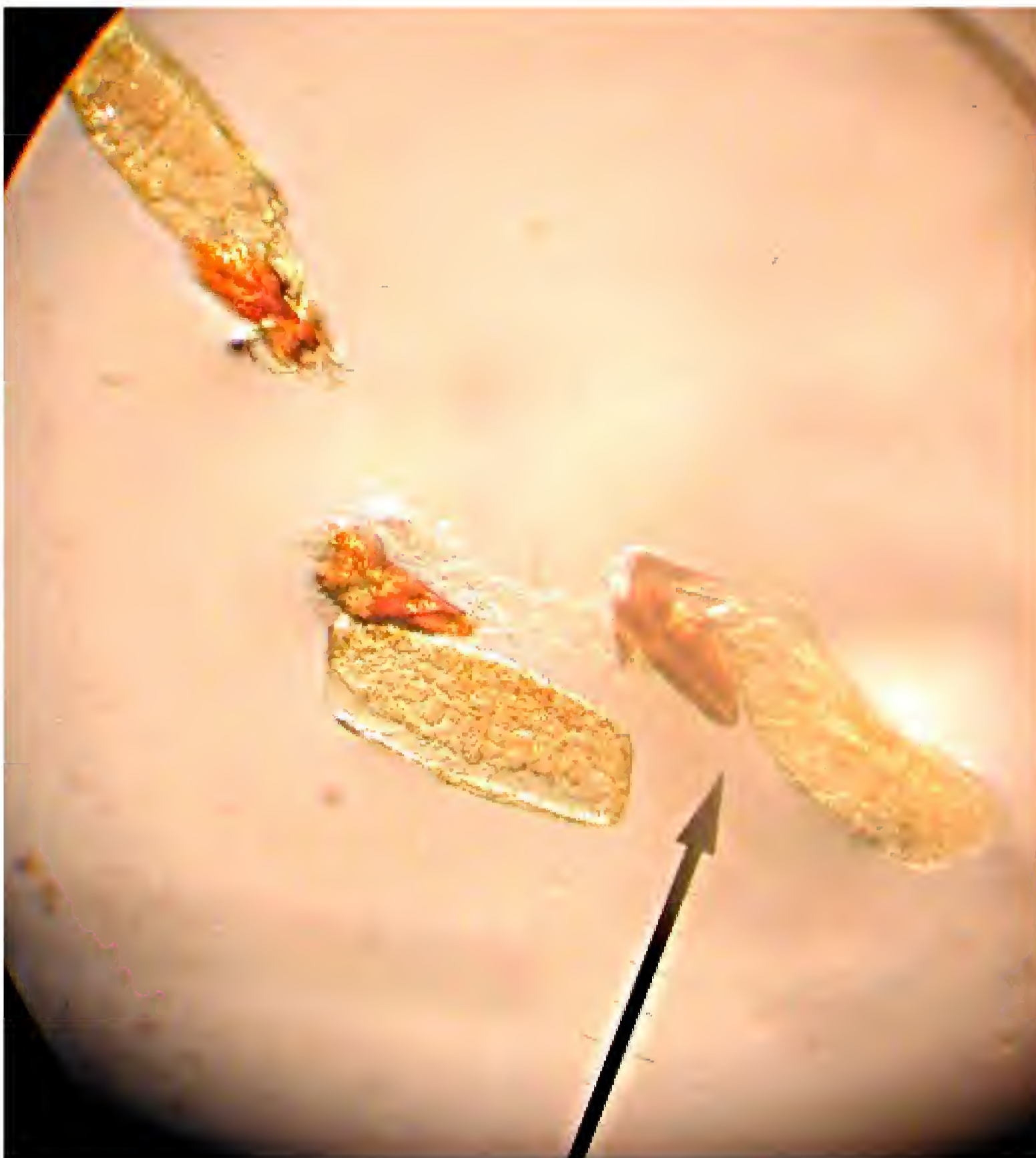
Apex – apex	0.25 cm
Apex – center	0.27 cm
Widest	0.16 cm
Ret. – ret	0.06 cm
Aw. – aw.	0.13 cm



Bottom view of the corona enlarged about 16x. Lobes are channelled from outer apex to about even with the sinuses, central column appears short. Surfaces of the lobe forming channel are diagonally sulcate and dorsal surface is longitudinally sulcate.



Side view of one scale greatly enlarged, actually the lobes are horizontal with the center raised a little here on drying slightly the outer lobe is turning up. Inner spatulate lobe difficult to discern.



Above pollinarium greatly enlarged. See scale for measurements. Black arrow head is 0.1 mm long base 0.05 mm wide; main markings on stem also 0.5 cm intervals .

Pollinarium

length	0.40 mm
widest	0.15 mm

Retinaculum

length	0.19 mm
shoulder	0.06 mm
waist	0.04 mm
hip	0.08 mm
ext.	0.02 mm

Translator

length	0.15 mm
depth	0.02 mm

Caudicle

bulb diam.	0.07 mm
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Translator/caudicle type: ls/o

Pollinia inner end type: R

Measurements of herbarium sheet below:

Stems glabrous, terete ca. 0.27 cm in diameter, internodes 8.9 – 10.7 cm long, nodes enlarged.

Petiole: +/- 1.8 cm long, glabrous curved, possibly grooved above.

Leaf: opposite, petiolate, ovate, shortly acute apiculate, glabrous, 8.9 – 10.7 cm long x 3.6 – 5.4 cm, widest near the middle. Pinnate nervation.

Peduncle: appears short, flower in globose cluster.

Reduced Copy of the Type Sheet
CAHUP #5292



Hoya palawanensis subsp. minora Kloppenburg

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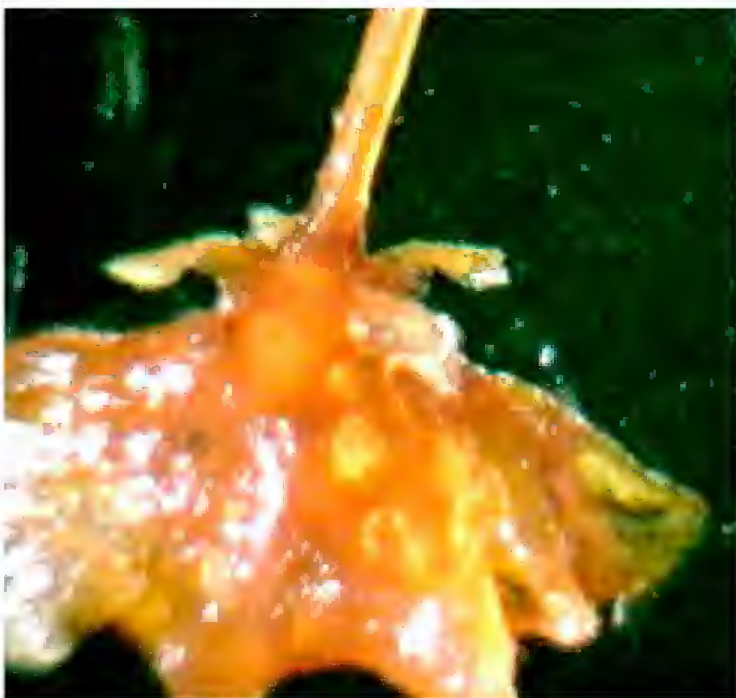
Hoya palawanensis subsp. minora Kloppenburg, holotypus CAHUP #5297 hic designatus, similes sp, sed sepala non triangularis, et 0.13 cm x 0.10 cm contrastre 0.25 cm x 0.15 cm et apex sub-rotundus et ovaria brevior; corolla diametro complanatus 1.10 cm contrastre 1.56 cm, aliter similes.

This subspecies is similar to the species namely in the pollinaria and anther wing type but in most parts a little smaller, the sepals have rounded apices not triangular in shape and are 0.13 x 0.10 cm versus 0.25 x 0.15 cm and the corolla diameter flattened is 1.10 cm versus 1.56 cm much smaller otherwise the parts are similar.

Details follow:



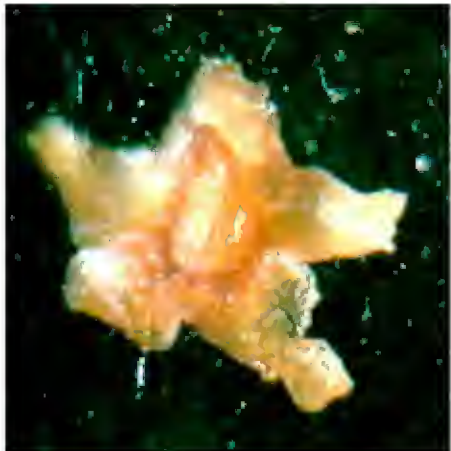
Pedicel enlarged about 16x. Curved, terete, glabrous 1.8 cm long, 0.04 cm in diameter.



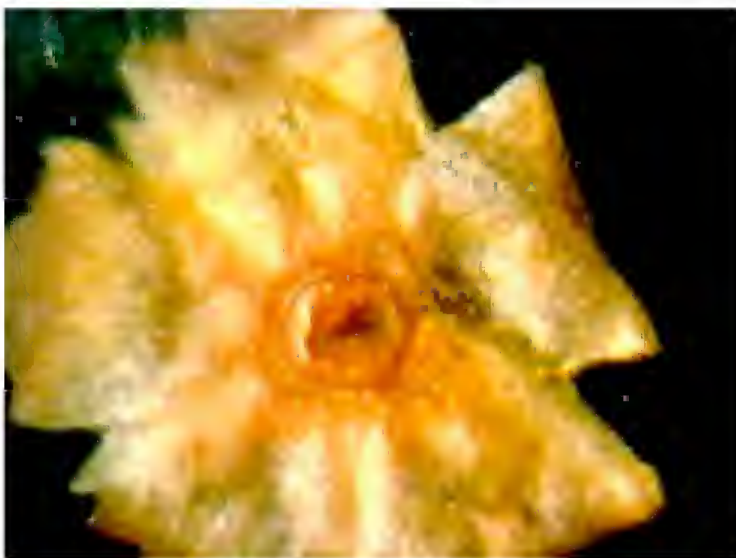
Outside of flower enlarged about 8x. Sepals do not reach the corolla sinuses, here dried and flared out from corolla surface which is glabrous.



Pedicel calyx and ovaries side view enlarged about 8x. Ovaries are narrow domed shape, 0.11 cm tall and 0.08 cm wide at abase pair, glabrous.



Top view of the calyx and ovaries enlarged about 8x. Sepals are glabrous inside and out, 0.13 cm long and 0.10 cm at the widest, overlap at the base about 1/4. There are faint ligules, sepal apex narrowly rounded

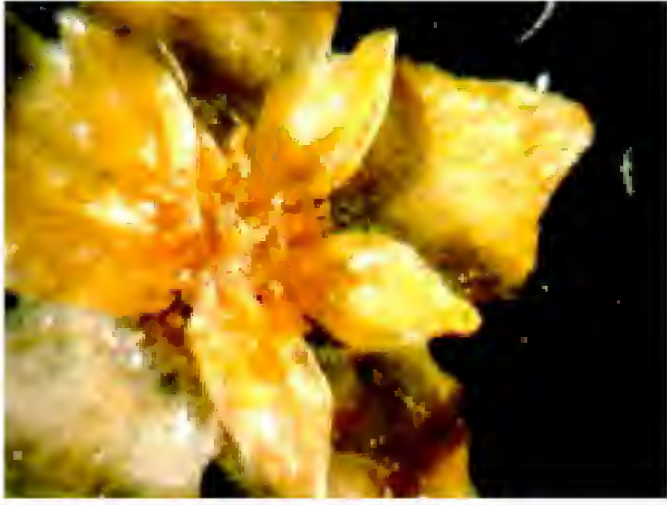


Corolla outer surface, glabrous, cut more than $\frac{1}{2}$ way, central collar thickened and convex.

Sinus – sinus	0.29 cm
Sinus – apex	0.37 cm
Sinus – center	0.22 cm
Apex – center	0.55 cm
Widest	0.33 cm



Inside surface of the corolla enlarged about 8x. This surface is finely pubescent, lobe apex is acute and broadest in the middle.

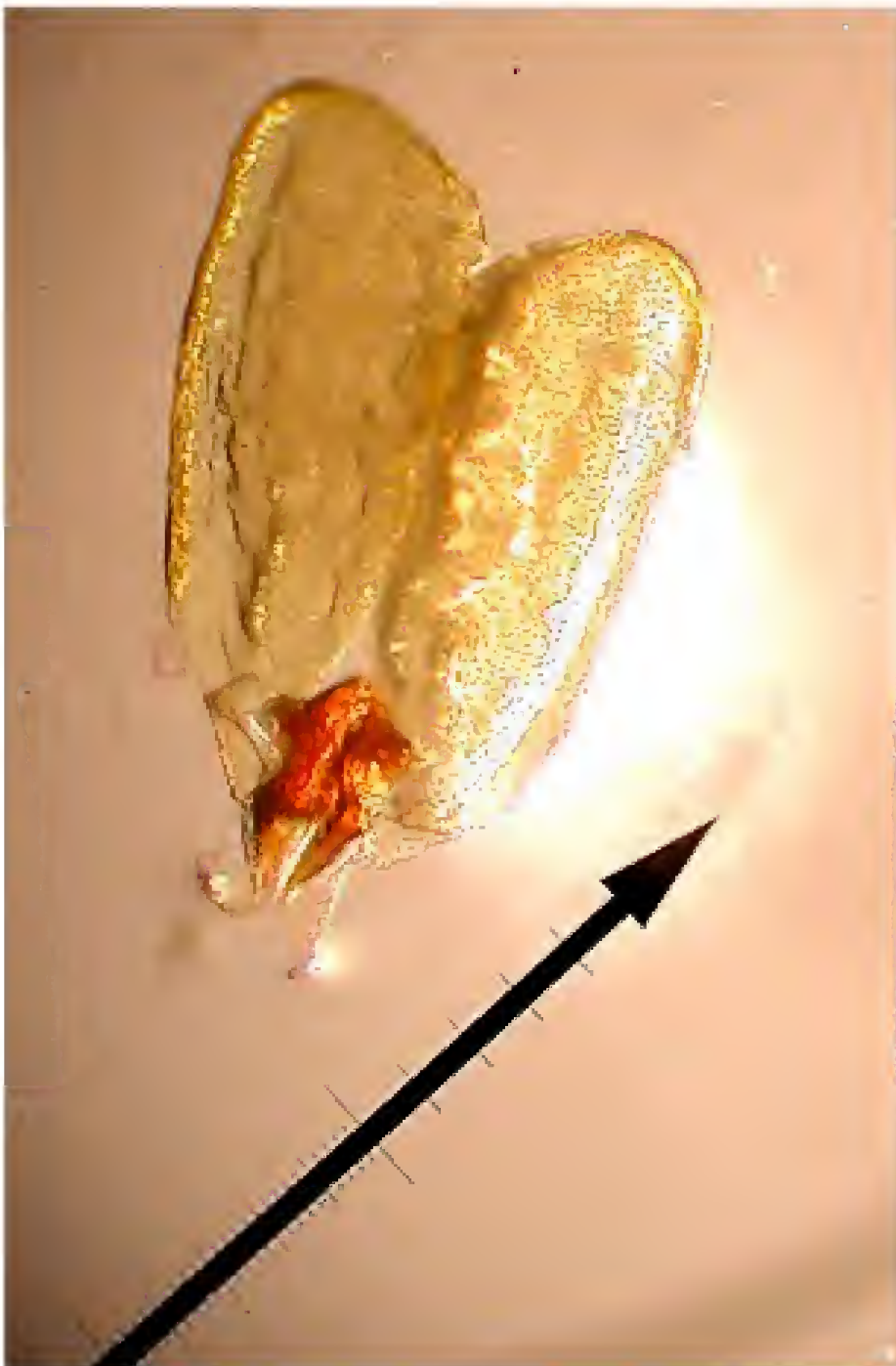


Inside view of the flower enlarged about 8x. Coronal outer lobe exceeds the corolla sinus by a considerable amount, is narrowly rounded an elliptic shape, dorsal a little concave with a raised keep from apex to apex. Inner lobe is blunt dentate and does not reach the center. Anther wings at apex are rounded and protrude a little.



Lower surface of the corona, glabrous, channeled all the way to the central column, anther wings protruding, lower outer edges of scales are thin and sharp edged.

Apex – apex	0.28 cm
Apex – center	0.33 cm
Widest	0.13 cm
Ret – ret.	0.09 cm
Ret – center	0.08 cm
Aw. – aw.	0.15 cm
Aw. – center	0.15 cm



Pollinarium enlarged about 155x.

Pollinium

length	0.47 mm
widest	0.20 mm

Retinaculum

length	0.12 mm
shoulder	0.11 mm
waist	0.06 mm
hip	0.08 mm
ext.	0.06 mm

Translators

length	0.12 mm
depth	0.01 mm

Caudicle

bulb diam.	0.08 mm
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Ret. Pol ratio 1:4.3

Translator/caudicle type: d/o

Pollinia inner end type: RT

Internodes: 6.5-13.4 cm long, some adventitious rooting. Nodes only slightly enlarged. Glabrous.

Leaf blades: opposite, petiolate, elliptic acuminate, 8.1 – 12.9 cm long x 3.3 – 4.2 at the widest, both sides glabrous, plinerved.

Petiole: 0.87 – 1.75 cm long twisted. Glabrous.

Rachis: 2.19 cm long.

The following sheet was labeled *Hoya macgregorii* Schlechter but it is not that species. Outer lobes of corona on that species are not “breviter excises” briefly excised. Also the corolla is much different.

Reduced copy of the type sheet CAHUP #5297
Misidentified as *Hoya mcgregorii* Schlechter



Hoya velasioii subsp. grandiora Kloppenburg

ISSN 2329-7336

Hoya velasioii sbubp. grandiora Kloppenburg, holotypus #18682 (CAHUP) hic designatus, similes sp. sed corolla diamentro complanatus grandior 1.04 cm contrastre 0.90 cm et pollinia longior 0.45 mm contrastre 0.43 mm et retinaculum longior 0.20 mm contrastre 0.15 mm, differt.

This subspecies was collected by the late Professor Juan Pancho it is similar to the species but different. Many parts are slightly larger, the corolla diameter flattened is 1.04 cm vs. 0.90 cm and the pollinia are also longer 0.45 mm versus 0.43 mm and the retinaculum is also longer 0.20 mm versus 0.15 mm among other differences.

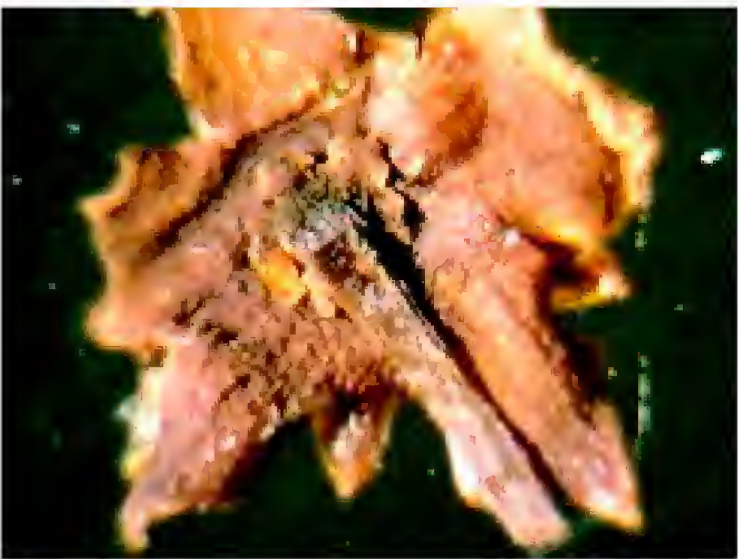
Flower from Herbarium sheet for Identification.



Pedicel and calyx enlarged about 8x. The pedicel is 0.06 cm in diameter, broken off so do not have the length. The surface is very finely crystalline puberulous.

Sepals very small and ovate, 0.07 cm long and 0.07 cm at the widest with ca. ¼ overlap at the base, ligules present, outer surface as with the pedicel very finely puberulous and dense. inside glabrous and shiny, membranous.

Ovaries, here dark 0.09 cm tall and base pair 0.09 cm wide, glabrous.



Outside surface of the flower enlarged about 8x. Sepals are small and do not come near the corolla sinuses. Corolla outer surface is finely granulate, glabrous.

Sinus – sinus	0.21 cm
Sinus – center	0.15 cm
Sinus – apex	0.40 cm
Apex – center	0.52 cm
Widest	0.30 cm



Inside view of the flower enlarged about 8x. Corolla inside is pubescent, coronal lobes exceed the sinuses of the corolla, dorsal is concave with a keel all the way down center with a small umbo at the widest portion. Corona is glabrous, sulcate, horizontal, inner lobe short spatulate nearly touching in center.



Bottom view of the corona enlarged about 8x, lobes are channeled nearly to the thickened central column, surfaces sulcate, glabrous.



Upper surface of corona (with corolla).

Apex – apex	0.30 cm
Apex – center	0.31 cm
Widest	0.13 cm
Ret. – ret.	0.07 cm
Aw. – aw.	0.15 cm



Pollinarium enlarged about 165x. Pollinia are laying slanted so full extent of breadth can not be measured in this photo.

Pollinium

length	0.45 mm
widest	0.13 mm

Retinaculum

length	0.20 mm
shoulder	0.08 mm
waist	0.04 mm
hip	0.08 mm,
ext.	0.03 mm

Translator

length	0.07 mm
depth	0.01 mm

Caudicle bulb is here oval
0.03 x 0.06 mm

Translator/caudicle type: d/o

Pollinia inner end type: RT

Measurements from the herbarium sheet below:

Leaves: opposite, petiolate, broadly ovate short apiculate, glabrous, base obtuse, pinnate nervation, mostly 9-15.6 cm long x 4.8-6.6 cm broad. Petioles round 1.0 - 1.8 cm long. 0.2 cm 0.3 cm in diameter.

Stems: petiolate, 0.03 – 0.4 cm in diameter, terete, glabrous, nodes slightly enlarged, 3-14 cm long. Peduncle ca. 5 cm long, rachis fine, pedicels 2.0 cm long, flower clusters globose.

A reduced copy of the type sheet
CAHUP #18682



Hoya columna Kloppenburg

ISSN 2329-7336

Hoya columna Kloppenburg sp. nova, holotypus #41193 (CAHUP) hic designatus. This is the first Philippine hoyia species with a pollinia 0.38 mm long, it also does not fit any present Philippine hoyia with a pollinia 0.16 mm wide, in addition this species has an unusually long thin coronal column 0.07 cm long, the pollinarium is also unique in several ways. Is it does not conform to any other Philippine hoyis species at this time. So it is unique in a number of ways. It has been named for the unusual coronal column.

Determination: possible new species.



Pedicel enlarged about 8x. Terete, glabrous curved, 1.5 cm long, 0.05 cm in diameter.



Side view of the calyx and ovaries enlarged about 8x. Calyx lobes do not reach the corolla sinuses are glabrous on both surfaces. Sepals are 0.10 cm long and 0.10 cm wide at the base, no ligules observed.

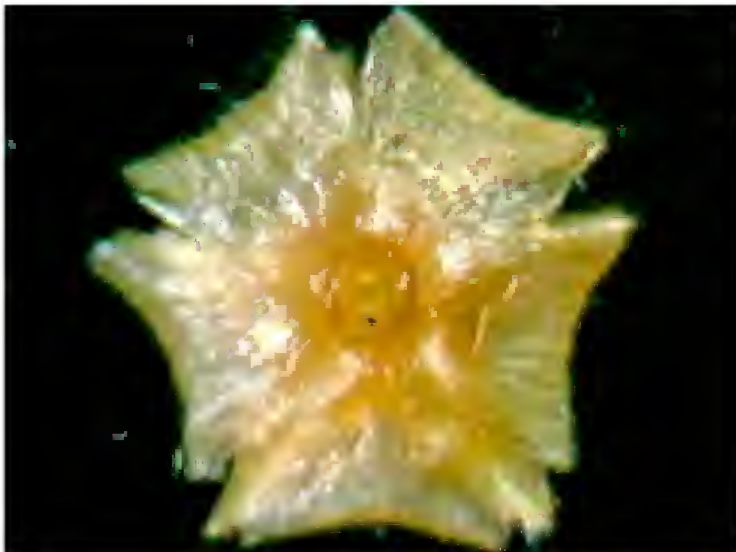
Ovaries: short, glabrous 0.10 cm tall and base pair 0.05 cm wide.



Top view of a calyx with some sepals missing enlarged about 8x, they are thin, glabrous, triangular with broad base and rounded apex.

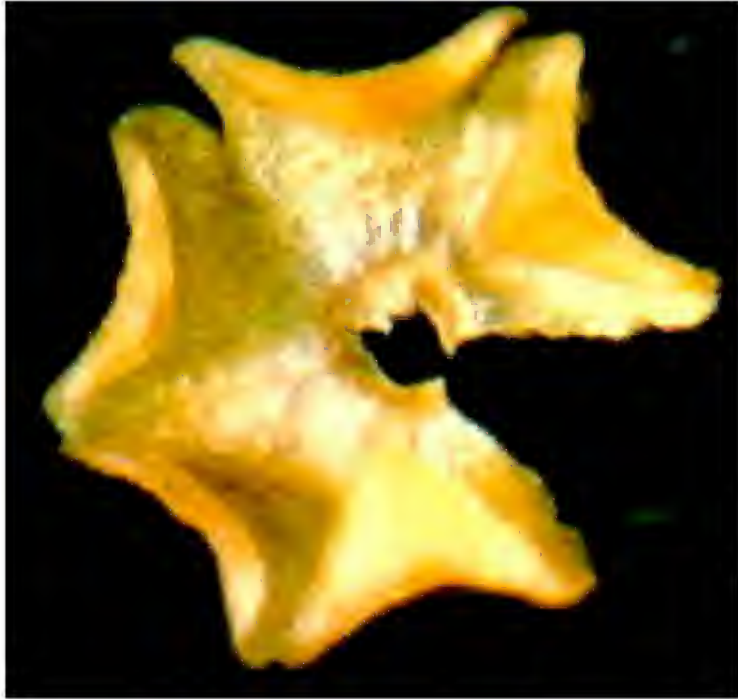


Closed flower outside surface with pedicel attached enlarged about 8x. Calyx lobes have turned up from the surface on drying. Outer surface of corolla is glabrous and granulose. Note the sepals do not reach the corolla sinuses and that the coronal lobe outer apex exceeds the sinus (lower right hand corner).

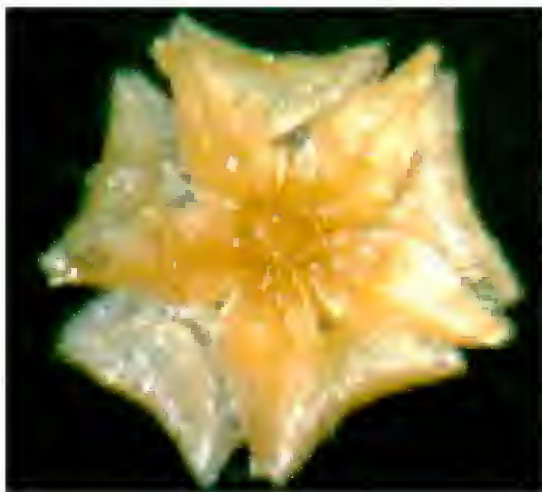


Corolla outer surface, flower closed, corolla is thin, deeply cut and wide above the sinuses.

Sinus – sinus	0.15 cm
Sinus – center	0.10 cm
Sinus – apex	0.30 cm
Apex – center	0.40 cm
Widest	0.30 cm



Inner surface of the corolla enlarged about 8x. This surface is finely puberulent except the raised collar and the edges of the lobes. Collar is a little thickened and 0.05 cm tall.



Top view of a flower showing that the coronal lobes exceed the corolla sinuses. Corona is glabrous and finely sulcate on surfaces.



Bottom side of the corona enlarged about 16x, the lobes have acute outer apices and channeled to near the central column, with the sides diagonally sulcate. Anther wings are acute and project slightly beyond the corona sinuses.



Another view of the corona bottom showing the long central column, it is 0.07 cm tall. Outer coronal lobes are raised with acute apices.



Top view of the corona. Inner lobes are acute sharply raised, spatulate and do not cover the center. Dorsal surface is a little concave.

Apex – apex	0.20 cm
Apex – center	0.22 cm
Widest	0.10 cm
Ret – ret.	0.05 cm
Ret – center	0.05 cm
Aw. – aw.	0.10 cm
Aw. – center	0.08 cm

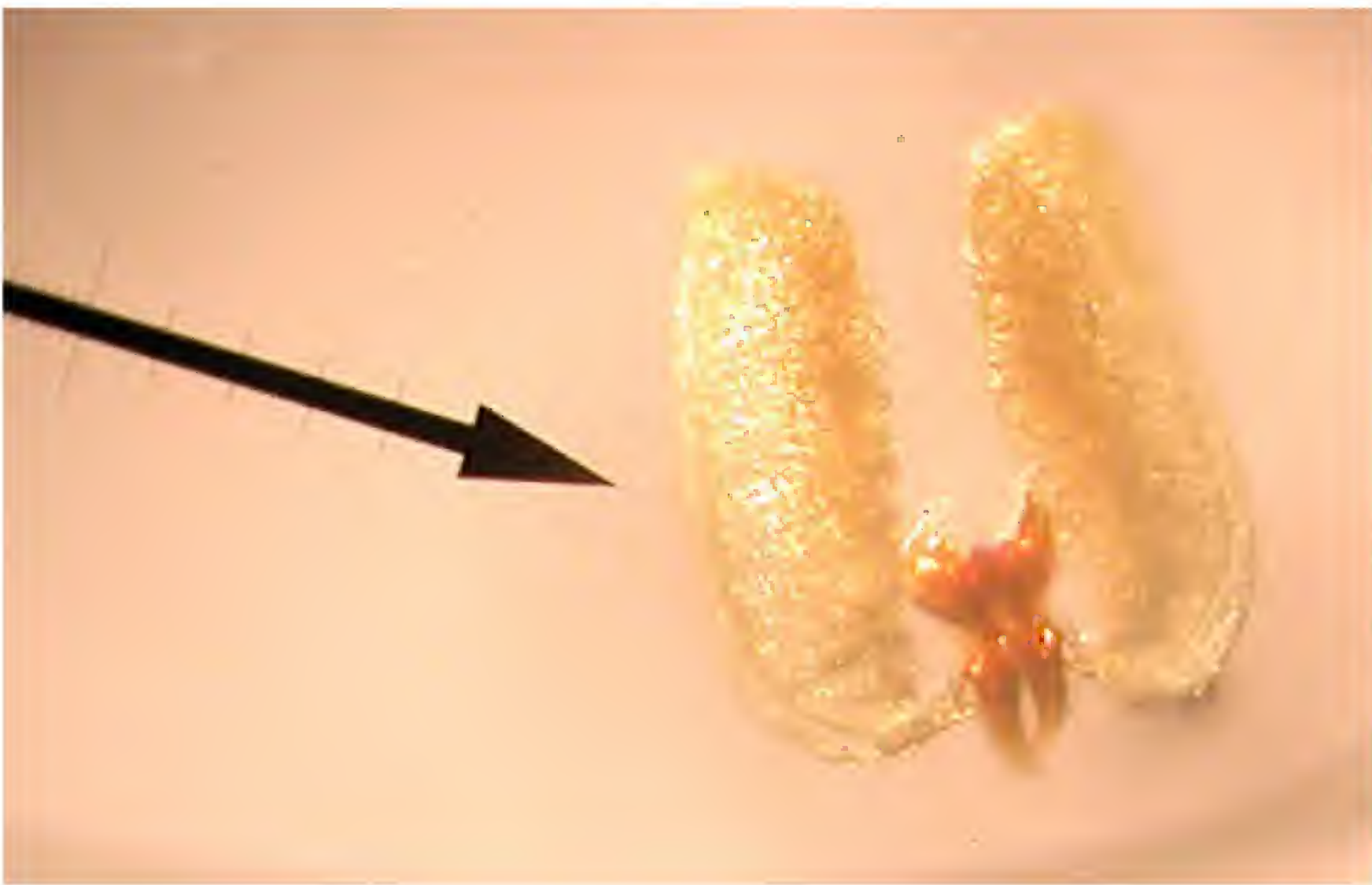
Measurements from the herbarium sheet.

Foliage: opposite, petiolate, ovate apiculate, thin, glabrous, quintuplinerved, size very uniform, 7.2-8.1 cm long 3.2 – 5.1 cm widest near middle. **Petioles:** 1.6 cm long and 0.35 cm in diameter, round.

Peduncles: variable in length 2.2, 6.4; 10.1 cm smaller diameter than most stems.

Internodes: mostly 9.5 cm long up to 0.7 cm in diameter many smaller.

Pollinarium below enlarged ca. 250x



Pollinarium

length	0.38 mm
widest	0.13-16 mm

Retinaculum

length	0.09 mm
shoulder	0.10 mm
waist	0.04 mm
hip	0.06 mm

Translator

length	0.08 mm
depth	0.02 mm

Caudicle

bulb diam.	0.04 mm oval.
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Pollinia inner end type: R

Translator/caudicle type: p/o

Ret:/Pol. ratio: 1:2.25

Reduced copy of the type sheet CAHUP #41913



Hoya maximowayetii Kloppenburg

ISSN 2329-7336

Hoya maximowayetii Kloppenburg sp. nova, holotypus 5271 (CAHUP) hic designatus, non similes alius hoya species, flos lacteus, corollae lobus diametro complanatus 0.90 cm, extus glabra, intus confertus pubescentia et coronae lobus exterior obtusa; pollinia 0.38 mm longus.

This hoya species is not similar to any other hoyas, flowers are whitish (as few are) and the corolla flattened has a diameter of 0.90 cm with the ventral surface glabrous and the dorsal surface densely pubescent, the coronal outer lobes are obtuse, the pollinia are 0.38 mm long. See the following detailed measurements of parts. This new species is named for my old friend, Maximo Wayet who worked for years for Professor Juan Pancho and collected many species in the northern Luzon areas.

Collected by Maximo Wayet at Benguet Village, Querino, Luzon, Philippines
Photos 19 April 2006.

Determination: near 5269 & 5293 -

Stems: terete, glabrous.

Peduncles: nill – 3.9 cm long on sheet below.

Foliage: opposite, glabrous, oblanceolate, triplinerved apex acute base cuneate 9.3-12.1 cm. long x 2.3 – 3.9 cm at widest. Petioles short ca. 1 cm.

Pedice: enlarged about 8x. Curved, terete, glabrous, purplish, 1.8 cm long 0.05 cm in diameter. Flowers whitish.



Calyx: enlarged about 8x. Sepals nearly reach the corolla sinuses, slight basal overlap; I did not see any ligules, edges entire, thin. 0.12 cm long 0.10 cm at the widest.

Ovaries: short dome, glabrous, 0.07 cm long and base pair 0.05 cm wide.

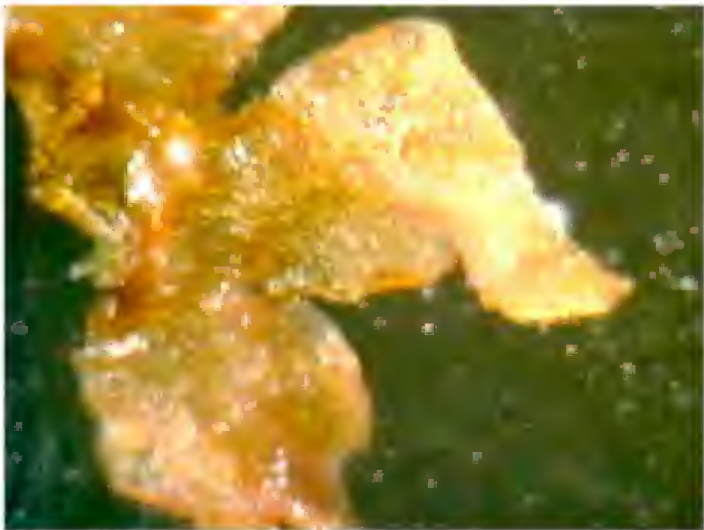


Flower outside showing a dark calyx and corolla lobes cupped up in drying, corolla outside glabrous, apex acute.



Corolla: outside surface enlarged about 8x, lobes are deeply cut and surface glabrous with a central collar a little thickened.

Sinus – sinus	0.14 cm
Sinus – center	0.13 cm
Sinus – apex	0.28 cm
Apex – center	0.45 cm
Widest	0.29 cm



Inside surface of the corolla enlarged about 8x, this surface is densely pubescent except near the center collar area.

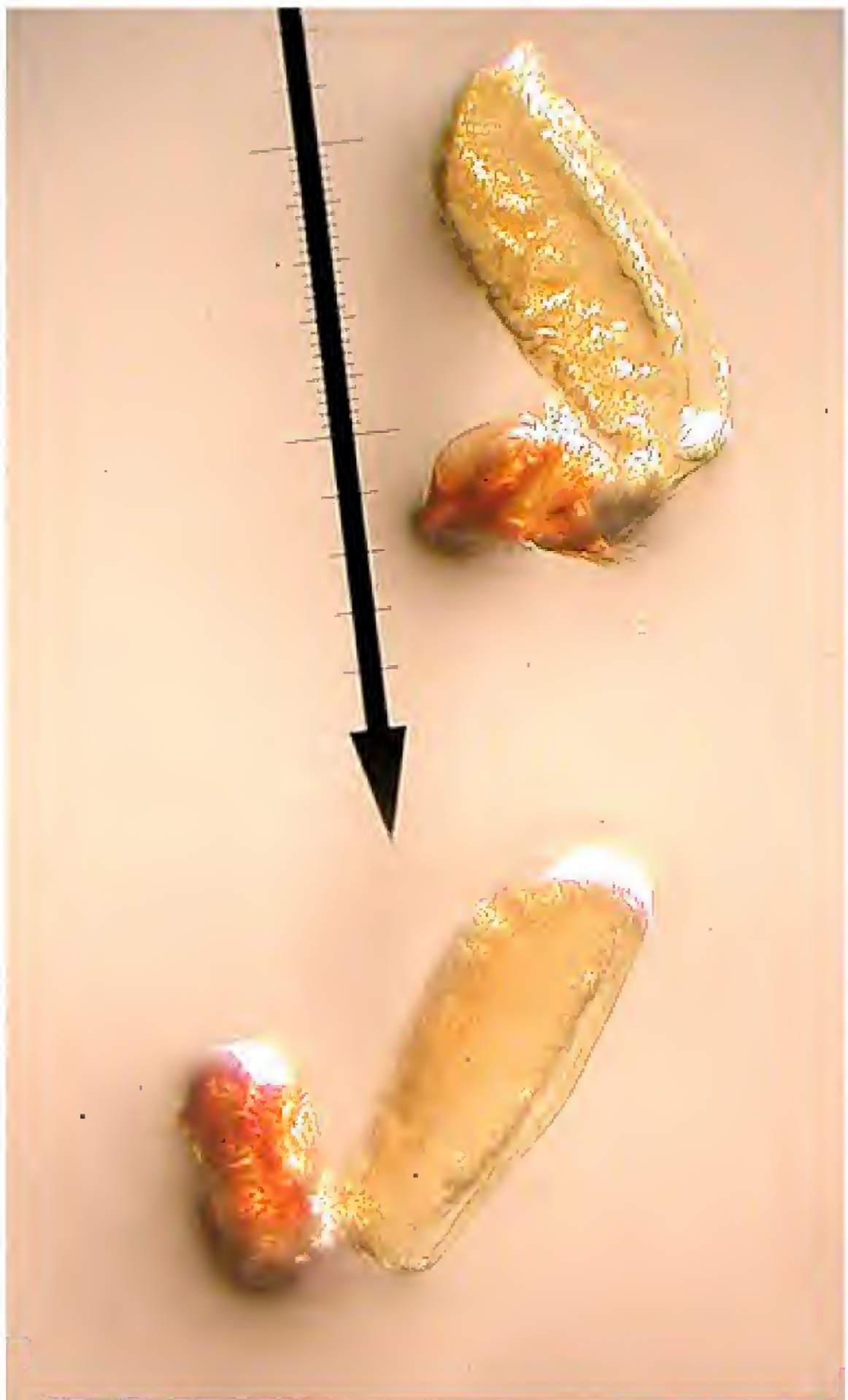


Corona: under surface enlarged about 16x. Lobes channelled below to near the thickened central column that is ca. 0.05 cm tall, surfaces are glabrous and lobes are finely sulcate.



Top surface of the corona enlarged as above. Surface is glabrous. Inner lobe raised a little and does not reach the center, outer lobe obtuse, dorsal slight concave with a low ridge all the way.

Apex – apex	0.20 cm
Apex center	0.22 cm
Ret. – ret.	0.06 cm
Aw. – aw.	0.10 cm



Pollinaria both with one pollinium missing and retinaculum twisted a little on both. Head of arrow is 0.1 mm long.

Pollinium

length	0.38 mm
widest	0.15 mm

Retinaculum

length	0.16 mm
shoulder	0.13 mm
hip	0.04 mm
waist	0.05 mm
ext.	0.04 mm

Measurements of the retinacula are close approximations. Can not determine length of the translators, although they are short, nor the caudicle bulb diameter.

Translator/caudicle type:
ls/o

Pollinia inner end type: T

Retinacula to Pollinium Ratio 1:1.7

Hoya wibergiae subsp. alba Kloppenburg

ISSN 2329-7336

Hoya wibergiae subsp. alba Kloppenburg subsp. nova, holotypus 14203 PNH, hic designatus. Similis sp. sed flos color differt et corolla diametro complanatus brevior 1.00 cm contrastre 1.60 cm et coronae lobus brevior et angustior 0.30 cm x 0.32 cm contrastre 0.40 cm x 0.48 cm, aliter similes.

This subspecies has a pollinarium similar to the species but the flower color is different, and the corolla flattened has a smaller diameter 1.00 cm versus 1.60 cm and also the coromnal lobes here are shorter and more narrow, 0.30 cm x 0.32 cm versus 0.40 cm x 0.48 cm, otherwise they are similar.

Collected by G. E. Edano Victoria Mts. Palawan 18 March 1951 growing in moss labeled *H. gracilis* Schlechter incorrectly, it is not in the Section Acanthostemma (Bl.) Kloppenburg. White flower, 600m elevation. This appears to be close to *Hoya wibergiae* Kloppenburg. Roll 137 Drawing 245.

Stems flexible, glabrous, rooting below nodes.

Leaf blades: 6-9 cm long x 1.5 – 3 cm widest. glabrous. Petiole 0.4 – 1 cm channeled above.

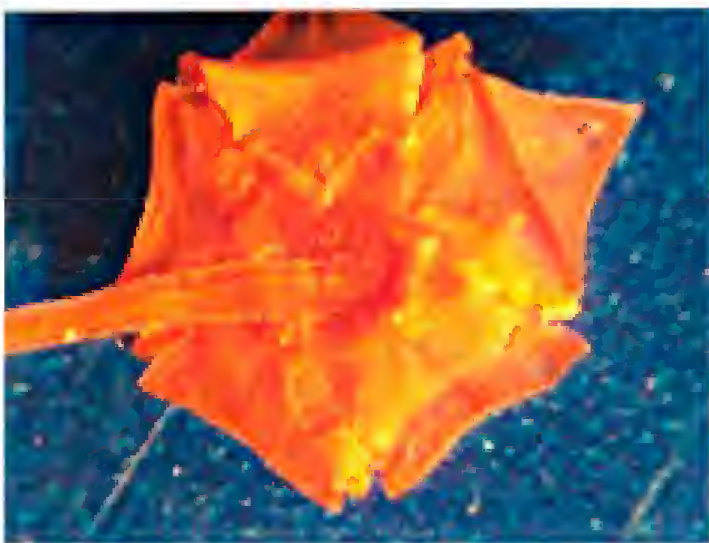
Peduncle: very short, 0.4 cm pubescent.



Pedicel & calyx enlarged about 8x.

Pedicel: 1.2 cm long strict, finely pubescent, with e vascular bundles, ca. 0.5 cm in diameter enlarging below the calyx.

Calyx: 0.13 cm long x 0.11 at widest, broad ciliate



Outside of flower enlarged about 8x. Sepals reach about $\frac{3}{4}$ way to the corolla sinuses, is deeply cut. Lobe apex acute widest above the sinuses.



Flower inside enlarged about 8x. Corolla is pubescent. Coronal lobes exceed the corolla sinuses.

Sinus – sinus	0.23 cm
Sinus – apex	0.37 cm
Sinus – center	0.19 cm
Apex – center	0.50 cm
Widest	0.30 cm

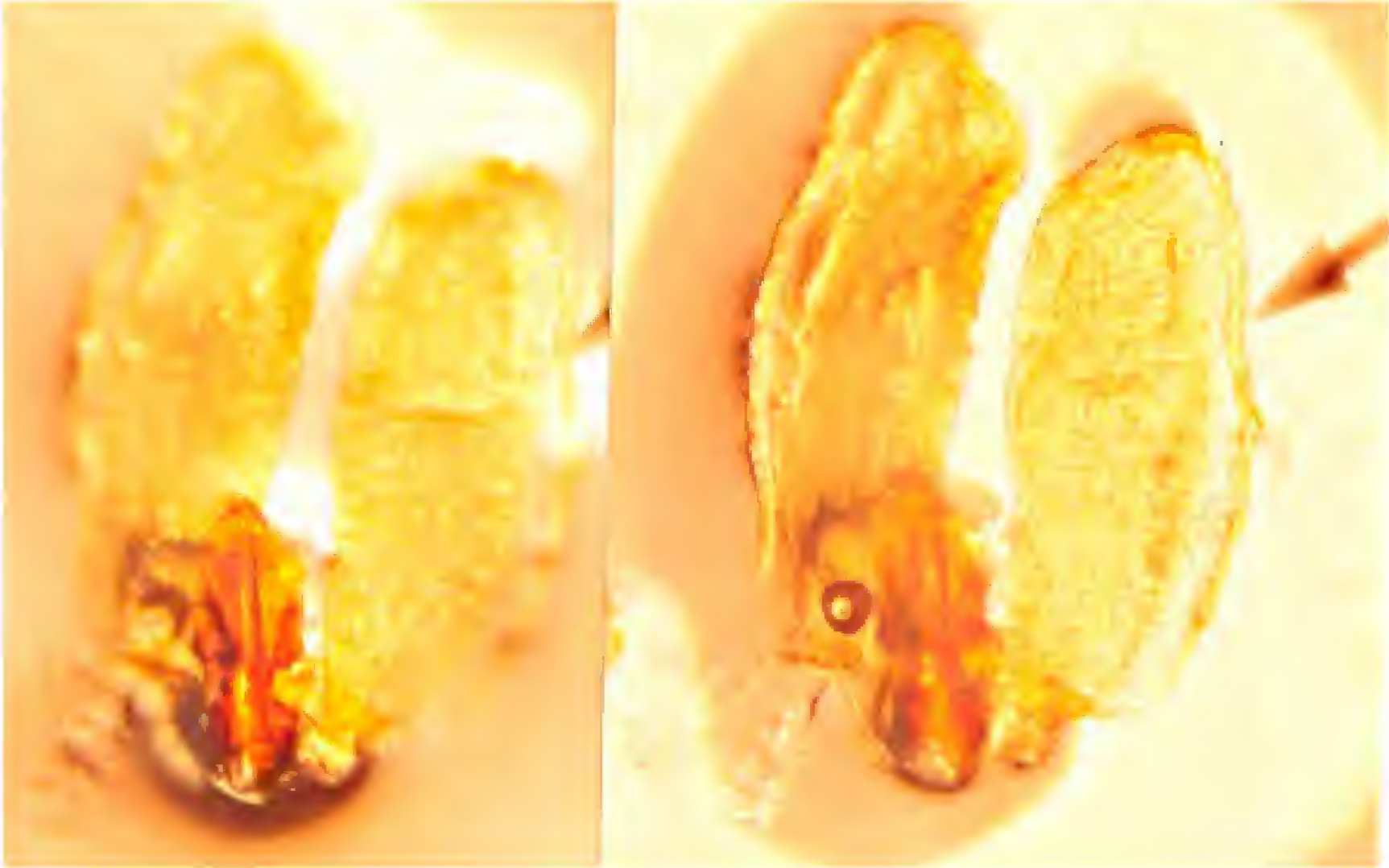


Bottom view of the corona enlarged about 8x. Lobes are channelled nearly to the thickened column, apex sub acute. lobes are wide in the center above the sinuses, anther wings are wide and protrude beyond the sinuses.



Top view of the corona enlarged about 8x. Scale dorsal has a large keel extending down center longitudinally. surfaces glabrous. Inner lobes dentate.

Apex – apex	0.30 cm
Apex – center	0.32 cm
Widest	0.17 cm
Ret. – ret.	0.10 cm
Aw. – aw.	0.23 cm



Pollinaria enlarged about 85x. **Pollinium:** length 0.60 mm widest 0.25 mm

Retinaculum: length 0.25 mm, shoulder 0.10 mm; waist 0.03 mm; hip 0.06 mm, ext. 0.01 mm

Translator: length 0.07 mm, depth 0.02 mm

Caudicle: bulb diam. 0.04 mm

Translator/caudicle type: p/o

Pollinia inner end type: RT

Hoya vicencioana subsp. quezonensis Kloppenburg

ISSN 2329-7336

Hoya vicencioana subsp. quezonensis Kloppenburg sp. nova, holotypus 5294 (CAHUP) hic designatus. Similis sp. sed folia breviora 7.8-12.6 x 3.5-5.4 contraste 10.5-17.6 x 6.0- 8.2 et corolla diametro complanatus breviora 0.90 cm contraste 1.22 cm, differt.

The subspecies is similar to the species but the foliage is smaller and the leaf bases are not as cordate and the corolla flattened is also smaller 0.90 cm in diameter versus 1.22 cm, among other differences. Collected by Blass Hernaez 17 March 1990, UP Landgrant, Quezon, Philippines. Roll 242.

Details follow.

Internodes: 5.5 – 10 cm long

Foliage: opposite, petiolate, elliptic with an apiculate apex acute, base slightly rounded, glabrous, pinnately nerved, blade 7.8-12.6 x 3.5 – 5.4 cm; petiole 2.7 cm long, glabrous.

Peduncle: extremely short here with rachis fasciculate.

Photo and data 3/29/99.

Pedicel: filiform, terete, glabrous 1.0 cm long 0.05 cm diam.

Calyx: short, broad, triangular sepals, ciliate, outside surface granulate, glabrous.

Ovaries: dome shaped 0.07 cm tall and base pair 0.05 cm wide, glabrous.



Flower, corolla dark, ventral glabrous, dorsal pubescent, with corona in center sitting atop a column, flowers very small. Outer lobes raised above the center, dorsal surface sway backed with center raised, outer apex rounded, thin, prominent anther wings. Inner lobes round (dentate?) sloping outward, dorsal with central ridge, same on underside.

Sinus – sinus	0.18 cm
Sinus – center	0.15 cm
Sinus – apex	0.30 cm
Apex – center	0.45 cm
Widest	0.25 cm

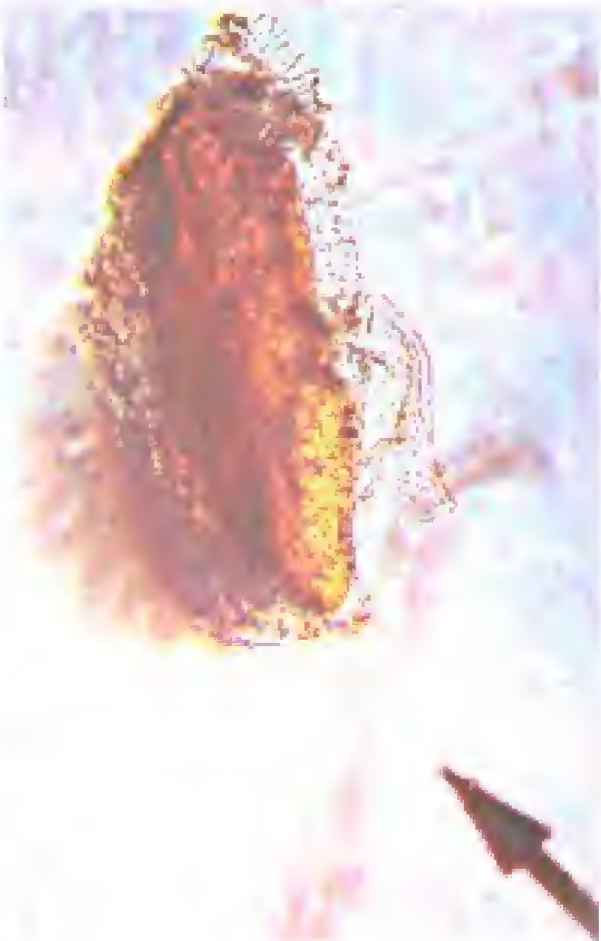


Another view of the corona. Photos do not show much detail and are of little value.



Retinaculum and extensions well developed, inner apex rounded, with translator on left side attached well down on side.

I can not determine measurements as I have no scale showing in photo.



Pollinium has germinated, apex rounded inner apex narrowing and also obtuse.

It is 0.42 mm long and ca. 0.15 mm at the widest.



Another photo of a pollinarium. Here the pollinium seems to measure 0.40 mm long and 0.16 mm at the widest.

Retinaculum turned on its side is ca. 0.20 mm. long.

Pollinia inner end type: T

Translator/caudicle type: d/o ?

Reduced copy of the type sheet
CAHUP #5294



Hoya velasioii Kloppenburg

ISSN 2329-7336

Hoya velasioii Kloppenburg, Holotype 9136 (CAHUP) hic designatus. Similes *Hoya afuangae* Kloppenburg & Cajano 2015 sed corolla diametro complanatus brevior 0.90 cm contrastre 1.20 cm et pollinia 0.43 mm longa contrastre 0.39 mm, differt.

This species is similar to *Hoya afuangae* Kloppenburg & Cajano 2015 but differs in the pedicel being slightly puberulous, the corolla flattened 0.90 cm vs. 1.20 cm, the pollinia lengths longer 0.43 mm vs. 0.39 mm and the leaves are here pinnately nerved not plinerved, among other differences.

Collected by J. R.Velasio. Photos 3/2/92 Roll 103-14 Drawing 182.



Pedicel: enlarged about 16x. 1.5 cm long 0.04 cm in diameter, slightly puberulous, terete, curved.



Back side of the calyx enlarged about 8x. Sepals are 0.12 cm long and 0.07 cm wide at the widest near base, thin, apex rounded.



Corolla outside view lobes folder in over center enlarged about 8x, surface is finely granulose, glabrous. Central collar thickened protruding toward the calyx, opening 0.10 cm x 0.07 cm 0.02 cm tall. Coronal outer lobes exceed slightly the corolla sinuses; are channeled all the way to the central column, surfaces are sulcate

Sinus – sinus	0.25 cm
Sinus – center	0.26 cm
Sinus – apex	0.30 cm
Apex – center	0.45 cm
Widest	0.28 cm



Corolla lobe enlarged about 8x, apex is acute.
Corolla inner surface is finely puberulous.



Bottom view of the corona enlarged about 8x. Lobes are channeled all the way to the long central column, apices are acute. Central column is 0.04 cm tall, half with corolla and half on corona 0.012 cm in diameter.



Top view of the corona enlarged about 8x. Lobes are concave with a keel running the entire length, inner lobes are clavate and raised a little, broadest at the anther wings. Anther wings are thick, apices rounded.

Apex – apex	0.30 cm
Widest	0.13 cm
Ret. – ret.	0.05 cm
Ret. – center	0.06 cm
Aw. – aw.	0.15 cm
Aw- center	0.12 cm



Side view of a coronal scale enlarged about 16x. Scales are horizontal with inner apex raised equal to the anthers that are still exposed in the center, lobes thin.



Pollinarium
enlarged about
165x.

Pollinium

length 0.43 mm
widest 0.14 mm

Retinaculum

length 0.15 mm
shoulder 0.08 mm
waist 0.07 mm
hip 0.08 mm
ext 0.06 mm

Caudicle.

bulb diam 0.05 mm

Translators

length 0.12 mm

Translator/caudicle type: p/o

Pollinia inner end type: RT

Ratio: r/p 1.8 depth 0.03 mm

Leaves: opposite, petiolate, glabrous, elliptic-lanceolate, base narrowly obtuse, apex acute, pinnate nervation, midrib prominent below and raised.

Holotype copy here reduced CAHUP 9136



Hoya capotoanensis Kloppenburg

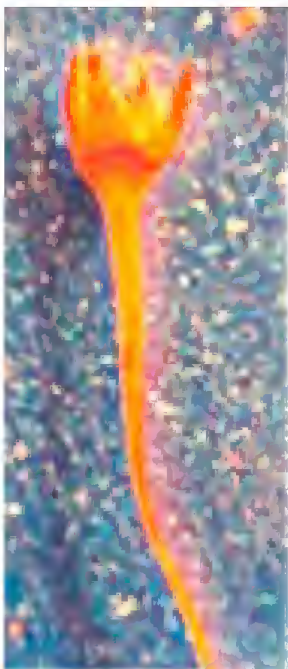
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Hoya capotoanensis Kloppenburg sp. nova, holotypus 15642 (PNH) hic designatus. There is no present hoya species with pollinia this short (0.22 mm) with translator type ls/o nor any with a pollinia this short and with coronal lobes this size (0.25 cm.). It is unique and different in these respects. This new species was collected by G. E. Edano at Mt. Capotoan, Samar 10 Jan. 1952 along a forested ridge, 180 m. elevation, flower greenish-yellow.

Stems: becoming large, woody, nodes enlarged, glabrous.

Blade: 7.5 – 12 cm x 3.5 – 4.9 cm, glabrous, leaf base sub-cuneate to sub-obtuse, apex acuminate, nervation 3- 5 triplinerved. Petiole 1-2 cm long, glabrous channeled above, deciduous, circular scars, curved.

Rachis: domed, short.



Pedicel and calyx side view enlarged about 8x. Pedicel is 2.5 cm long, terete, glabrous; calyx base is tapering.

Calyx: sepals 0.12 cm x 0.09 cm, triangular, edges membranous, 10 % overlap, apex sub acute.

Ovaries: 0.6 cm x 0.05 cm small domed.



Bottom view of the corolla enlarged about 8x, outside surface is glabrous.

Sinus – sinus	0.20 cm
Sinus – center	0.20 cm
Sinus – apex	0.30 cm
Apex – center	0.45 cm
Widest	0.26 cm



Top view of the corona enlarged about 16x, lobes exceed the corolla sinuses, anthers exceed the inner lobe apex. Dorsal is broad with a slight domed central ridge.

Apex – apex	0.25 cm
Apex – center	0.28 cm
Widest	0.14 cm
Ret.- ret.	0.08 cm very far in toward center.
AW. – aw.	0.16 cm very prominent extended, rounded ends.



Pollinarium enlarged about 165x.

Pollinium

length	0.22 mm
widest	0.05 mm

Retinaculum

length	0.15 mm
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shoulder	0.10 mm
waist	0.06 mm
hip	0.08 mm
ext	0.03 mm

Translators

length	0.07 mm ca.
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Translator/caudicle type: ls/o

Pollinia inner end type: R

Reduced copy of the herbarium sheet.



Hoya galeraensis Kloppenburg
ISSN 2329-7336

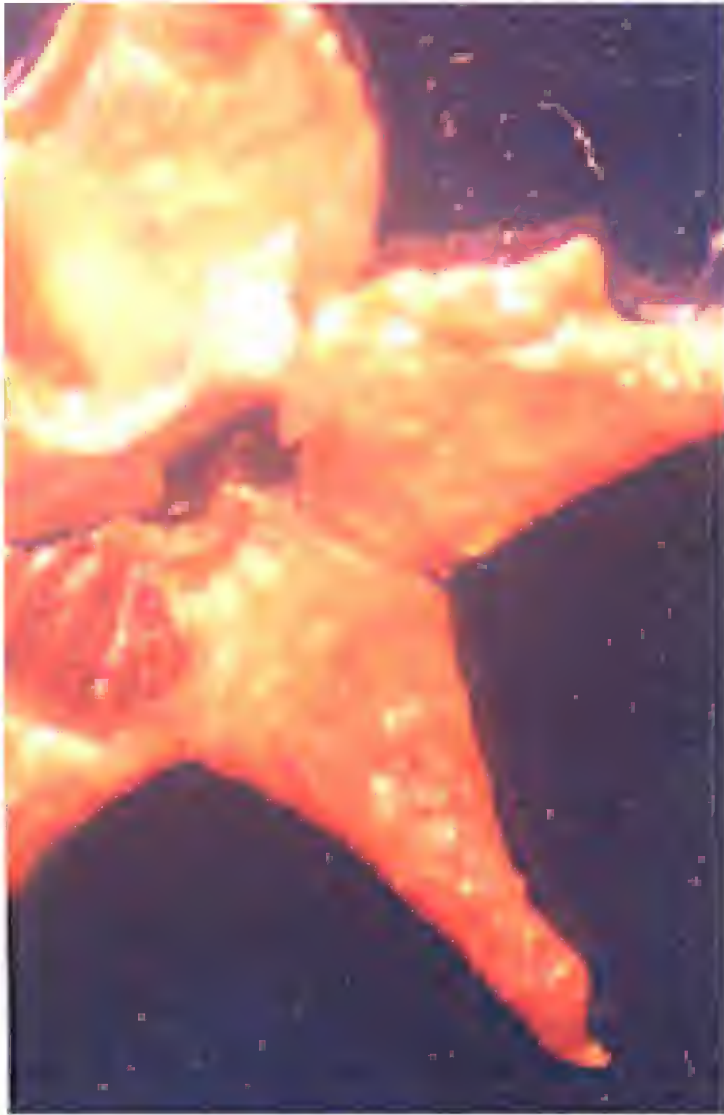
Hoya galeraensis Kloppenburg sp. nova, holotypus 3312 (CAHUP) hic designatus. No other Philippine hoyia species has a white flower with palmate nerved foliage. There are only about 5 species with white flowers and only a few species with palmately nerved leaves. This new species also has an unusual domed coronal center that is rare. This unique species was collected by the late professor Juan at Puerto Galera, Palawan, Philippines in 1954. I first examined it in 3/29/99. Film roll 244,



The calyx base and pedicel 0.06 cm in diameter.

Corolla outside enlarged about 16x. Flower is labeled as white, corolla is reflexed with thick calyx base and pedicel, surface is glabrous, lobes turned under along sides. Apex acute.

Sinus – sinus	0.17 cm
Sinus - center	0.17 cm
Sinus – apex	0.32 cm
Apex – center	0.46 cm
Widest	0.28 cm



Inside (dorsal) surface of the corolla enlarged about 12x. This surface is granulose-glabrous with central collar thickened and raised a little.



Bottom view of the corona. Scales are channeled below nearly to the center with overlapping sulcate sides, apex acute. Channel lobes fold out to form a "V" channel centrally. Center is a short thickened walled column. Anther wing apices rounded and not protruding from the sinuses.



Top view of the flower with corona, the lobes do not reach the corolla sinuses. Lobes raiser over dome like center outer apex rather obtuse, inner lobe spatulate nearly covering the center. Dorsal surface keeled part way

Apex – apex	0.15 cm
Apex – center	0.17 cm
Widest	0.15 cm

Leaves: opposite, petiolate, glabrous, elliptic-ovate with base obtuse, apex acuminate, palmate nerved.

Reduced copy of the type sheet, CAHUP 3312



Hoya sulitii Kloppenburg

ISSN 2329-7336

Collected by M. D. Sulit, (PNH) 10147, 15 April 1949, Mt. Katanglad, Bukidnion Prov. Mindoro, Philippines. Flower creamy, collected at 1800 m asl at forest edge. This new species has some characters near *Hoya cardiophylla* most similar in foliage but here the corolla is densely pubescent inside, which negates it being that species. The pollinium is similar however but smaller 0.48 x 0.19 mm versus 0.50 x 0.17 mm and the retinaculum is longer 0.26 mm versus 0.20 mm.



Pedicel: section with the calyx attached, enlarged about 8x, they are 2.5 cm long, terete, strict, finely puberulous 0.13 cm in diameter.

Calyx: outside granulate, inside slick glabrous. Sepals 0.28 cm long and 0.25 cm at the widest.

Ovaries: are dome shaped, glabrous 0.18 cm long and the base pair is 0.25 cm wide.



Top view of a flower enlarged about 8x. The crown is relatively horizontal, although on some dried flowers the outer lobes of the corona turn up as in the next picture. These flowers were soaked in Kew Solution and then photographed.



Another side view of the flower enlarged showing the densely pubescent inner corolla surface, especially dense inward from the corolla lobes, which are here reflexed. The column is also relatively long, so the corona sits well above the corolla surface. Lobes are channelled below, with sulcate surfaces, anther wing apices protruding slightly and triplex.



Side view of a coronal scale enlarged about 16x. that would appear to indicate that the inner lobe exceeds the anther and is narrowly dentate (which is different then *H. cardiophylla*) and that the outer lobe turns up, possibly from drying, also not like in the other species in which the corona is horizontal. Dorsal is concave, anther wings deeply scythe shaped.



Pollinarium enlarged about 165x. The retinaculum is similar to that of *Hoya cardiophylla* but slightly different, also the pollinia are much shorter and the translators although attached well down, are here curved inwardly.

Pollinia

length	0.48 mm.
widest	0.19 mm.

Retinaculum

length	0.26 mm.
shoulder	0.12 mm
waist	0.05 mm.
hip	0.10 mm.

Translator

length	0.17 mm.
depth	0.03 mm.

Caudicle

bulb diameter	0.05 mm.
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Translator/caudicle type: ls/o

Leaves: opposite, petiolate, glabrous, ovate with cordate base and acute apices, pinnate nervation, with mostly 6 pairs of nerves sub-anastomosing, margins a little revolute, midrib plainly visible below.

Reduced copy of the type sheet:

